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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,123	10/30/2001	Takehiro Fujita	FUJS 19. 099	2408
26304	7590	02/03/2006	EXAMINER	
KATTEN MUCHIN ROSENMAN LLP			MEEK, JACOB M	
575 MADISON AVENUE			ART UNIT	
NEW YORK, NY 10022-2585			PAPER NUMBER	
			2637	

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/023,123

Applicant(s)

FUJITA ET AL.

Examiner

Jacob Meek

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3 - 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3 - 10, 12, 13, 15, 16, 18, 19, 21, 22 is/are rejected.
- 7) ☒ Claim(s) 11, 14, 17, 20, 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because Figures 1, 13 ( $(\omega - \Delta\omega) \angle 0$ ), 14 (PLO output) show signal connected to DTn, which appears to be in error.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 3 is objected to because of the following informalities: "trigonometric function calculating unit" is claimed, but is not identically disclosed in specification. Clarification of this language is requested in order to bring it in line with disclosure.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 5 recite the limitation "the trigonometric function calculation" in calculating circuit limitation. There is insufficient antecedent basis for this limitation in the claims.
4. Claim 5 recites the limitation "the phase comparing delay circuit" in calculating circuit limitation. There is insufficient antecedent basis for this limitation in the claims.

***Response to Arguments***

5. Applicant's arguments, see page 12, filed November 23, 2005, with respect to the rejection(s) of claim(s) 3 under 35 USC 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of applicant's admitted prior art.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art.

With regard to claim 3, applicant's admitted prior discloses a parallel signal phase adjusting circuit having a number of data channels (see figure 22, DT1 – DTn) inputted together with a clock signal (see figure 22, CK) and adjusting clock signal so that each clock signal is synchronized with each of data signals (see figure 22, 103-1 to 103-n, 104-1 to 104-n, CK1 – CKn), the parallel signal automatic phase adjusting circuit comprising: adjusting circuits provided in correspondence to respective data signal channels for effecting adjustment on clock generated from oscillating circuit so that clock signal is synchronized with corresponding data signal (see figure 22, 102-1 to 102-n, 103-1 to 103-n, and 104-1 to 104-n), wherein each of each of adjusting circuits is arranged to include a phase comparator for comparing clock signal and data signal in phase and outputting a phase difference signal as a result of comparing (see figure 22, 102-1 to 102-n). Applicant's admitted prior art is silent with respect to a trigonometric function calculating unit. However, applicant's admitted prior art discloses the connection of output of phase comparator (102-1 to 102-n) to variable delay circuit (103-1 to 103-n) and in turn to PLO circuit (104-1 to 104-n), which performs a phase shift function based on phase comparator output. When giving the limitation "trigonometric function calculation unit" its broadest interpretation elements 102, 103, and 104 can be construed as a trigonometric function calculation unit by virtue of its ability to measure and adjust phase relationships, which are described by angular relationships.

7. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art as applied to claim 3 above, and further in view of Ishibashi et al (US-5,621,774).

With regard to claim 8, applicant's admitted prior art is silent with respect to inter-data phase adjusting circuit. Ishibashi discloses a circuit for the alignment of data signals in order

to provide a uniform sampling time for the data (see figures 9 and 14 and column 3, lines 15 – 22 where this function is interpreted as equivalent). It would have been obvious to one of ordinary skill in the art at the time of invention to provide data alignment of parallel signals to ensure proper reception of data ('774. column 2, lines 12- 17).

### ***Allowable Subject Matter***

8. Claims 4 and 5 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

9. Claims 11, 14, 17, 20, 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Other Cited Prior Art***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shastri (US-6,552,619) discloses a multi-channel clock recovery circuit related to applicant's invention.

Lai (US-6,526,112) discloses a multi-channel clock recovery circuit related to applicant's invention.

Agazzi (US-6,363,129) discloses a multi-channel clock recovery circuit related to applicant's invention.

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### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (571)272-3013. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM  
1/31/06

  
TEMESGHEN GHEBREYINSAE  
PRIMARY EXAMINER